Beringian Research Notes

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Figure 1. Yukon Horse (*Equus lambei*). Detail of a painting by George Teichmann.

Yukon Horse

The Yukon horse (*Equus lambei*) was a relatively small caballoid (closely related to the modern horse *Equus caballus*) species. It occupied steppe-like grasslands of Eastern Beringia (unglaciated parts of Alaska, Yukon and adjacent Northwest Territories) in great numbers, and was one of the commonest Ice Age (the Quaternary, or last 2.6 million years) species known from that region, along with steppe bison (*Bison priscus*), woolly mammoths (*Mammuthus primigenius*) and caribou/reindeer (*Rangifer tarandus*). Our knowledge of the appearance (Figures 1, 2) of this species is based on a skeleton reconstructed from many superbly-preserved bones from the Dawson City area, Yukon, and on a partial carcass from Last Chance Creek in that vicinity.

The type specimen ("flag-bearer" for the species) was first described by O.P. Hay of the Smithsonian Institution from a well-preserved skull from Gold Run Creek, Yukon. It was named for Geological Survey of Canada paleontologist H.M. Lambe. The Yukon horse was characterized by relatively small size (about 12 hands, or 4 ft tall at the withers) and broad skull, a mandible whose lower profile rises in front of the cheek teeth, and relatively long protocones (peninsular enamel columns on the inside of the grinding surface of the upper cheek teeth). The cheek teeth are typically caballoid with wide U-shaped lingual (on the interior, tongue-side) grooves, rather than V-shaped grooves as in the asses, or V- or U-shaped grooves as in the hemiones another group of horses (Equidae). Among living horses, perhaps the Yukon horse most closely resembles Przewalskii's horse (*Equus caballus przewalskii*) from Mongolia now probably extinct in the wild. The upper foot bones (metapodials) of *Equus lambei* are slender compared to Przewalskii's horse, and are shorter and more massive than those of hemiones.

It is worth noting that equally small, robust horses (*Equus caballus lenensis*) also occurred in Western Beringia (unglaciated areas of Eastern Siberia) during the Late Pleistocene (about 130,000 to 10,000 years ago). Presumably that species is represented by the Selerikan horse carcass, an adult male from northeastern Siberia discovered in 1968, which was almost identical to Przewalskii's horse. It was radiocarbon dated between 39,000 and 35,000 BP (before present, i.e., 1950), and apparently died in late autumn after becoming mired in a bog. Stomach contents consisted mainly of grasses. Earlier, in 1878, the carcass of a white horse was thawed from frozen ground on the Yana River from the same part of Russia, but it was not saved for study.

Similarly, critical evidence for the appearance of the Yukon horse comes from a partial carcass found in 1993 by placer miners Lee Olynyk and Ron Toews, as well as Lee's son Sammy, at Last Chance Creek (15 Pup) near Dawson City. Backhoe work had exposed the foreleg and a large part of the hide of the Last Chance horse in a mining trench (drain). Remnant tail hairs and a small portion of the lower intestine with horse dung remained in the trench wall above the original find and were collected by archaeologists Ruth Gotthardt and Greg Hare. It is likely that the main portion of the carcass had been lost in the backhoe excavation; the hide and lower intestine were preserved, probably because they were still frozen into the wall of the trench.The carcass had been frozen into the base of organic silt ("muck") overlying the gold-bearing gravel and bedrock, and underlying a layer of Holocene (10,000 years ago to the present) peat that caps the exposure.

The right foreleg was that of an adult with dried flesh, skin and dark brown hair on the lower parts. The outer portion (wall) of the hoof is missing, but the V-shaped ridge (frog) on the underside is preserved. The upper part of the foreleg (humerus) was gnawed when the animal died by a medium-sized carnivore, possibly a wolf (*Canis lupus*). A sample of the leg bone yielded a radiocarbon date of 26,280±210 years BP, so, like the Selerikan horse, it had died before the cold peak of the last (Wisconsinan) glaciation some 20,000 years ago. The hide, extending from an ear to the tail (several tail vertebrae are preserved in sequence), includes long, blondish mane and tail hair, as well as some coarse, whitish body hair, perhaps part of the winter pelt. It was collected with portions of the lower intestine and its contents. The intestinal contents included not only remains of what the horse had been feeding on,

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but also elements of the surrounding environment: grasses, sedges, poppies, mustards, pink family, butter-cups and members of the rose family. They suggest that the horse had lived in a parkland environment with sparse clumps of trees.

Figure 2. Mounted casts of Yukon horse (*Equus lambei*) skeletons reconstructed using matching bones from several specimens. (Yukon Beringia Interpretive Centre, Whitehorse).

Many of the fossil insects recovered with the pelt represent types that would forage among herbaceous plants, such as leafhoppers and ground beetles. So both plant and insect macrofossils (fossils apparent to the unaided eye) suggest that plants, especially grasses, were available as food and that the Last Chance Creek horse did not die of starvation.The absence of remains of carrion beetles, and blow-fly pupae, as well as flesh flies, support other evidence that the animal died in winter and was buried and frozen before the following summer. These findings correspond to those regarding "Blue Babe" the famous steppe bison carcass recovered near Fairbanks, Alaska that died about 31,000 years ago also in the mid-Wisconsinan interval.

Horses originated in North America, the first Eocene (about 55 to 34 million years ago) horses of the genus *Hyracotherium* (*"Eohippus"*) were of terrier size with four toes on the front and three on the hind. They were browsers adapted to forest-floor surroundings. Through time, horses increased in size, reduced lateral toes emphasizing the middle one, grew larger teeth with higher crowns and more complex grinding surfaces, etc. By Miocene time (about 24 to 5 million years ago) horses had branched out, many adapting to life on the spreading grasslands. Modern horses (*Equus*) arose in North America from a progressive Pliocene (5 to 2 million years ago) horse *Pliohippus* that occupied the continent during the Pleistocene (2 million to 10,000 years ago) and spread to other continents at the beginning of the Pleistocene. In the Old World *Equus* is represented by species designated as horses, zebras and asses. After dying out in the New World, modern horses were introduced to North America from Europe by sixteenth century settlers.

Yukon horses probably arose in Beringia 200,000 years ago. Fossils have been found as far north and east as Baillie Islands, Northwest Territories; as far west as Ikpikpuk River; near the northern coast of Alaska, and as far south as Ketza River and Scottie Creek, Yukon. Many excellent specimens derived mainly from placer mining sites, came from the vicinity of Fairbanks, Alaska and the Dawson City area, Yukon. Twelve radiocarbon dates on the species range from about 31,500 to 12,300 BP and indicate that it occupied Eastern Beringia through the cold peak of the last glaciation sometimes considered a

"bottleneck". There appear to be similarities between *Equus lambei* of Eastern Beringia and *Equus caballus lenensis* from Western Siberia, but it is worth considering whether the former species ever spread southward. Comparisons should be carried out with specimens referred to the small Mexican horse (*Equus conversidens*) from places like the 11,000 BP St. Mary Reservoir site in southern Alberta. Further, *Equus conversidens* dominates the excavated fauna, and the presence of horse-protein residue on two stone points from this site indicates that horses were killed or scavenged by Clovis people.

Bluefish Caves in the northwestern Yukon have yielded the earliest *in situ* evidence of human occupation (about 25,000 BP) of Eastern Beringia associated with one of the largest and most diverse Late Wisconsinan faunas in the region. *Equus lambei* fossils from the caves have been radiocarbon dated between about 17,500 and 13,000 years ago. Research on teeth of the Yukon horses from the caves indicates that predators were mainly responsible for gathering the horse bones in Cave I, whereas Caves II and III bones seem to have accumulated through accidental or natural deaths. Yukon horses seem to have died out about 12,000 years ago in Eastern Beringia, likely due to rapid climatic change near the close of the last glaciation, possibly exacerbated by human hunting.

C.R. Harington
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Additional Reading

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